**Iritis of Nasal Origin.**—E. LEFRANCOIS (Cherbourg) reports the case of a woman, aged thirty-two years, who came with iritis of the left eye of about three weeks' standing, corneal deposits, and vision reduced to 1/50. She was free from syphilis, gonorrhœa, rheumatism, or tuberculosis. The iritis was at first ascribed to menstrual irregularities, but menstruation soon became normal, and the iritis continued unimproved by treatment until the patient became discouraged and ceased attendance. After several weeks she returned with more violent inflammation of the eye, and it was then discovered that nasal obstruction had existed for several months. The right side of the nose was found normal, but the left contained a cheesy, fetid mass. The removal of this mass and cleansing of the nose restored it to normal. The inflammatory symptoms quickly subsided. By the end of the month vision had risen to 1/2, and three months later full vision had been regained.—*Recueil d'Ophthalmol.*, March, 1899.

# PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

W. T. COUNCILMAN, M.D.,

SHATTUCK PROFESSOR OF PATHOLOGICAL ANATOMY, HARVARD UNIVERSITY,

AND

F. B. MALLORY, M.D.,

ASSISTANT PROFESSOR OF PATHOLOGICAL ANATOMY, HARVARD UNIVERSITY.

**Acute Diffuse Gonococcus Peritonitis.**—CUSHING, in the *Johns Hopkins Hospital Bulletin*, May, 1899, describes two cases of diffuse fibrinous peritonitis secondary to salpingitis. In both cases gonococci were found in smears from the fibrin covering intestines and in the pus from the oviducts. In one case all cultures from the abdomen were sterile; in the other, in cultures from fibrin covering the liver and lining the pouch of Douglas, an abundant growth of the gonococcus was obtained.

In both cases smears from the urethra and vagina were negative, although both patients gave a history of gonorrhœa.

[With the exception of the case of acute pelvic peritonitis reported by Wertheim in 1882, these are the only reported cases of acute gonococcus peritonitis with satisfactory bacteriological examinations.]

**On the Hitherto Undescribed Peptonizing Diplococcus Causing Acute Ulcerative Endocarditis.**—MACCALLUM and HASTINGS (*Johns Hopkins Hospital Bulletin*, 1899, vol. x. p. 46) describe a micrococcus pathogenic for man which they found in a case of acute ulcerative endocarditis.

The organism was obtained in pure culture twice during life from the blood of the basilic vein, and at autopsy from the heart's blood and the aortic vegetations, as well as from infarcts in the spleen and kidney, and from the lung. Sections of the aortic valve showed the fibrinous vegetations to be loaded with masses of diplococci.

The chief peculiarities which distinguish it from the pyogenic cocci already described are:

1. The mode of growth, which resembles that of the micrococcus lanceolatus, the diplococcus intracellularis meningitidis and the streptococcus rather than that of the pyogenic staphylococci.
2. The action on gelatin, which resembles that of the staphylococci.
3. Its activity in peptonizing milk and coagulated blood-serum, in which it differs from all the above-named pyogenic cocci.

In virtue of this last property they propose the name *micrococcus zymogenes.*

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**Contributions to the Study of the Bacterium Coli.**—ESCHERICH, in his paper read before the German Congress of Internal Medicine at Carlsbad, April, 1899 (*Cent. f. allg. Path. u. Path. Anat.*, 1899, x. 413), stated that in cases of colitis contagiosa of children and allied disorders of adults the stools contain two varieties of colon bacilli. The blood of the patient exerts an agglutinative action upon bouillon cultures of one but not of the other.

As is well known, the term "bacillus coli" embraces a series of closely related bacteria. They have a number of properties in common, chief of which are gas-production and decomposition of proteids. The variations are apparently due to differences in the food-supply or soil upon which the organism develops.

The agglutination reaction shows that the race of colon bacilli normally present in the intestine varies with the individual. But in the same infant the same race is quite constantly found. Every individual has a special race in his intestines—not a confused mixture of bacilli introduced with the food. This "personal race," as Escherich terms it, is non-pathogenic as far as its host is concerned.

Infection with the bacillus coli can occur only when virulent forms gain access to the body.

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**Primary Melanosarcoma of the Rectum.**—WIENER (*Beiträge zur path. Anat. und allgemeinen Path.*, xxv., Band ii., Heft s. 322) compares a primary melanosarcoma of the rectum in man with two similar cases in horses. Sections from similar tumors from various parts of the human body are described for comparison.

Tests for iron, to ascertain the hæmatogenous origin of the pigment, were negative.

The pigment masses are formed by coalescence of minute granules, since he found all gradations, from finely granular spindle-cells to large round-cells, filled with masses of pigment. Free pigment is due to the destruction of these older cells.

In the case he describes the primary focus was probably in the pigment-cells of the anal region, whence it infiltrated the submucosa.

He argues against the origin of these tumors from pigmented epithelial-cells, because the formation is most marked around the bloodvessels.

As an unexplained fact, he mentions the pigmentation of connective tissue in the centre of some skin tumors. This was most like the deposition of pigment in tattoo marks. The epithelium of skin tumors is thinned mechanically by the growth below. Yet an ingrowth of epithelial cells into the underlying tissue does occur beyond doubt.

Wiener agrees with Oppenheimer, that the renal epithelium is colored a diffuse light brown.

Metastases in the liver may present circumscribed nodules or a diffuse infiltration.

As a general rule, in melanosarcomata in man the bloodvessels are involved, either by a perivascular growth or an invasion into the vessel wall, or an actual penetration of the intima and projection into the lumen. This condition has probably caused the statement that melanosarcomata arise from bloodvessels. The demand for abundant nutriment may affect this direction of growth. The dilatation of capillaries may be entirely explained by mechanical pressure. Metastases are primaly affected by the bloodvessels, and are most common in the brain and liver.

The differences in the character of the growth in horses are interesting. The tumors do not penetrate deeply and metastases are much fewer. The growths are harder, firmer, and the nodules are not so liable to softening. There is no perivascular arrangement of the cells, all of which are pigmented. There is much less tendency to malignancy.

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**Bone Formation in the Brain.**—THOMAS (*Medical and Surgical Reports, Boston City Hospital*, 1899) reports a case of the formation of true bone in the brain, resulting from the presence of coccidia oviformia. The patient died of pneumonia, and the tumor had caused no symptoms during life. At the autopsy, aside from the condition found in the lungs, a small, calcareous mass was found in the anterior central convolution, which was atrophied. This mass, on microscopical examination, was found to consist of true bone (with laminations, lacunæ, and canaliculi), containing narrow spaces in which were œdematous connective tissue and occasionally large, granular connective-tissue cells (fat granule cells). Outside of the bone was a layer of osteoid tissue, and the whole was surrounded by a layer of increased neuroglia tissue—a secondary gliosis. Near the nodule were also seen long, spindle-shaped spaces surrounded by connective tissue and giant-cells, the areas resembling the granulation tissue sometimes seen around fat crystals. In the centre of the nodule was a large space filled with granular detritus in which were many small, oval bodies. These bodies, the coccidia, had a distinct capsule, occasionally double, and were either empty or filled with granular matter. The author concludes that the process was one of acute degeneration and softening of the brain from the presence of the coccidium oviforme, followed by encapsulation; the formation of fat crystals came from the breaking up of the myelin and other nerve substances and leucocytes; granulation tissue formed about this area, and was followed by ossification and secondary gliosis in its neighborhood. The author has been unable to find a similar case reported, unless it be that of Bidder, in Virchow's *Archives*, 1882, p. 91, who described rather vaguely a number of rounded bodies, which he took to be degenerated cells, in the centre of a bony tumor of the brain.

Thomas collected twenty-two cases of bony tumor of the brain, sixteen in the cerebrum, including one in the corpus callosum; five in the cerebellum, and one in the infundibulum. He concludes that the formation of bone in the brain is always a secondary process, sometimes occurring in new growths, but more often in connective tissue, such as forms after encephalitis of slight intensity.

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**Secondary Pneumococcus Infection.**—Debflocq and Lejonne (*Soc. Med. des Hôp.*, Paris, November 25, 1898) report the following interesting secondary infections with the pneumococcus in a case of pneumonia: An arthritis, abscess of tissues around the larynx, hyperplasia of the inguinal and crural lymph-nodes, psoitis, and a terminal meningitis.

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**Urotropin as a Urinary Disinfectant.**—M. W. Richardson (*Journal of Experimental Medicine*, January, 1899) reports the result of the use of urotropin as a disinfectant for the urine in typhoid fever. He reviews his previous work on the bacteriological examination of the urine of thirty-eight cases, in nine of which he found the typhoid bacillus always in large numbers and practically in pure culture. The bacilli were found in the late stages of the disease, often persisting far into convalescence.

In the series which he now reports the typhoid bacillus was found in fourteen out of sixty-six cases examined. Nine of these cases were treated with urotropin, and in every case the bacilli disappeared from the urine. In seven cases, which were followed closely, the bacilli did not return. The urotropin was administered in doses of ten grains three times a day. With the exception of one case, in which two hundred grains were used, sixty grains or less were found sufficient to produce the desired result.

Urotropin, a compound of ammonia and formaldehyde, was first introduced by Nicolaier in 1898 as a disinfectant of the urine.

The writer considers the disinfection of the urine of typhoid fever patients as important a sanitary measure as the disinfection of the stools, and as it is impossible to make a bacteriological examination of the urine in all cases, advises the administration, during convalescence, of thirty grains of urotropin daily for ten days.

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**A Contribution to the Study of the Bone-marrow.**—Pio Foà's (*Ziegler's Beiträge*, Band xxv., Heft 2) contribution deals chiefly with the so-called giant-cells of the bone-marrow Flemming's and Hermann's solutions were used as hardening agents. For the reticulum of the bone-marrow and for differentiating the protoplasm of the giant-cells Mallory's stain gave the best results. Other stains used were those recommended by Ramôn Y. Cajal and by Van Gieson.

In man the protoplasm of the giant-cell is described as having three layers—an inner finely granular protoplasm which immediately surrounds the parts of the compound nucleus, an intermediate layer of thick fibrillar compact protoplasm which surrounds more or less completely the inner layer, and an outer layer made up of a reticulum of thread or cilia-like processes which are generally on the broader side of the cell-body.

These layers vary in different animals and in different stages of development and functional activity.

Multiplication of the nuclei of the giant-cells he believes to take place without division of the protoplasm There is no evidence of karyokinesis. It is a simple direct nuclear division which must be considered as a retrograde process leading to destruction of the cell.

He does not think that giant-cells form any of the blood-cells, or are formed by them. That the giant-cells contain, occasionally, a polymorphonuclear leucocyte indicates a phagocytic action rather than the formation of new cells. The theory of Heidenhain, that the presence of leucocytes in giant-cells indicates that the giant-cell is dead is not borne out by careful examination, for in all the cases the staining reaction gives no evidence of degenerative changes in the giant-cell, but does give evidence of changes in the included leucocytes.

By animal experimentation it was found that this phagocytic property of the giant-cells was increased by inanition, suppuration, exhausting hemorrhages, and by intravenous injections of lecithin, milk, and filtered cultures of the pneumococcus and the staphylococcus pyogenes aureus.

In all these cases emboli of giant-cells were found in the capillaries of the lungs, where they were destroyed, and never caused thrombosis. These cells reach the general circulation by being forced through the light walls of the marrow capillaries.

Foà believes the giant-cells to be formed from the true marrow-cells, which have much protoplasm and a single large vesicular nucleus with deeply stained border which contains a prominent nucleolus. These cells he has often observed showing different grades of nuclear division.

The article is illustrated by two colored plates showing thirteen figures.

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All communications should be addressed to

Dr. Alfred Stengel, 1811 Spruce Street, Philadelphia, U. S. A.

Or

Dr. Hector Mackenzie, 59 Welbeck St., Cavendish Sq., London, W., Eng.

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